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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/541,741	07/06/2005	Chan-Yong Park	11281-074-999	9837
20583	7590	01/14/2008		
JONES DAY 222 EAST 41ST ST NEW YORK, NY 10017			EXAMINER BEDTELYON, JOHN M	
			ART UNIT 2874	PAPER NUMBER
			MAIL DATE 01/14/2008	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/541,741

Applicant(s)

PARK ET AL.

Examiner

John M. Bedtelyon

Art Unit

2874

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 October 2007.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-15 and 17-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 12-15 and 17-19 is/are allowed.
- 6) ☒ Claim(s) 1 and 4-11 is/are rejected.
- 7) ☒ Claim(s) 3 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>10/26/07</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after allowance or after an Office action under *Ex Parte Quayle*, 25 USPQ 74, 453 O.G. 213 (Comm'r Pat. 1935). Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, prosecution in this application has been reopened pursuant to 37 CFR 1.114. Applicant's submission filed on 10/26/07 has been entered.

Information Disclosure Statement

2. The information disclosure statement (IDS) submitted on 10/26/07 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Response to Amendment

3. This action is responsive to the RCE filed 10/26/07. Claims 1, 3-15 and 17-19 are pending in the application.

Claim Objections

4. Claim 14 objected to because of the following informalities: claim 14 twice recites the phrase "extrusion dice" which should read "extrusion die". Appropriate correction is required.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Watson (US Patent Application Publication 2002/0136509, hereinafter Watson).

7. **With respect to claim 1**, Watson teaches:

An optical fiber unit for air blown installation into a tube (see figure 1),
comprising:

At least one optical fiber (14) having core layer and clad layer (they'd have to have a core and clad to function);

A protective layer (10) coated on a surface of the optical fiber (see figure 1); and

A protrusion (11, 12, 13, see figure 1) for receiving fluid drag force when the optical fiber unit is installed with use of blow air (paragraph [0025]), wherein the protrusion is made of polymer resin (paragraph [0028], low friction plastics material is a polymer resin) and formed on an outer surface of the protective layer in a banded shape (see figure 1, the protrusions are aligned in a banded shape),

Wherein the protrusion is large enough to create a sufficient fluid drag force in order for the fiber to be installed by air blown installation (paragraph [0025]), wherein the protrusion is formed discontinuously (See figure 1).

With respect to claim 10, Watson teaches the protrusions are the same material as the protective layer (paragraph [0030], as the protrusions are simply cuts into the protective layer).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

10. Claims 1, 4-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Masahiro (JP2001021781, hereinafter Masahiro) in view of Watson (US Patent Application Publication 2002/0136509, hereinafter Watson).

With respect to claim 1, Masahiro teaches:

At least one optical fiber (24) having a core layer and a clad layer (though Masahiro doesn't specify the clad and core, without a clad and core layer, the optical fiber would not function);

A protective layer (22 and 25) coated on a surface of the optical fiber (see figure 4);

A protrusion (23) for receiving fluid drag force when the optical fiber unit is installed with use of blown air (paragraph [0001]), wherein the protrusion is made of polymer resin (detailed description, paragraph [0008] discloses polyethylene, a polymer resin) formed on an outer surface of the protective layer in a banded shape,

Wherein the protrusion is large enough to create a sufficient fluid drag force in order for the fiber to be installed by air blown installation (paragraph [0012]).

Masahiro is silent to the protrusion being formed discontinuously.

Watson teaches discontinuous protrusions.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the teaching of discontinuous protrusions of Watson in the banded protrusions of the Masahiro reference because the discontinuity helps reduce friction that occurs between the protrusions and the duct the cable is being installed in, thereby increasing efficiency of the installation of the optical fiber cable (Watson paragraph [0028]).

With respect to claim 4, Masahiro teaches the protrusion has a spiral pattern (see figure 2).

With respect to claim 5, Masahiro teaches the protrusion has a triangular sectional shape (see figure 1).

With respect to claim 6, Masahiro teaches:

Wherein the protective layer (22 and 25) included a buffer layer (25) surrounding at least one optical fiber and a sheath (22) surrounding the buffer layer (25).

With respect to claim 7, Masahiro and Watson teach the limitations of claim 6 as previously stated.

The combination is silent to the Young's modulus and hardness of the buffer layer and sheath.

It would have been obvious to one of ordinary skill in the art at the time the invention was made since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or working ranges involves only routine skill in the art. In re Aller, 105 USPQ 233. By changing and optimizing the Young's modulus and hardness of the buffer layer compared to the sheath, the flexibility and desired tensile strength of the cable can be more controlled.

With respect to claim 8, Masahiro and Watson teach the limitations of claim 6 as previously stated. The combination is silent to the intermediate layer.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to form other buffer layers between the buffer layer and sheath since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. St Regis Paper Co. v. Bemis Co., 193 USPQ 8. Creating further buffer layers could help protect the fibers from being damaged due to

bending, could help waterproof the cable or could be added to size the cable to the desired diameter.

With respect to claim 9, Masahiro and Watson teach the limitations of claim 8 as previously stated, but are silent to the Young's modulus and hardness of the intermediate layer. It would have been obvious to one of ordinary skill in the art at the time the invention was made to select the desired Young's modulus and hardness of the intermediate layer since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or working ranges involves only routine skill in the art. In re Aller, 105 USPQ 233. By changing and optimizing the Young's modulus and hardness of the intermediate layer, as compared to the buffer layer and sheath, the flexibility, and the desired tensile and crushing strength, of the cable can be more controlled.

With respect to claim 10, Masahiro teaches:

Wherein the protrusion (23) is made of the same material of the protective layer (see figure 4, the protrusion is made as part of the protective layer).

With respect to claim 11, Masahiro teaches:

Wherein the optical fiber includes a multi-core ribbon-type optical fiber (paragraph [0023] suggests using tape slot mold fiber optic cables, which is a ribbon-type cable), and the protective layer has a circular sectional shape (see figure 4).

Allowable Subject Matter

11. Claims 12-15 and 17-19 are allowed.

12. Claim 3 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

13. The following is a statement of reasons for the indication of allowable subject matter: with respect to claim 3, the prior art of record does not appear to anticipate or render obvious the coating layer coated on the surfaces of the protrusions and the protective layer, with respect to claim 12, the prior art of record does not appear to anticipate or render obvious, in combination, supplying polymer resin discontinuously to the outer surface of an optical fiber passing through a hollow extrusion die having a predetermined groove in order to create a protrusion on an optical fiber to receive fluid drag to be installed with blown air, and with respect to claim 17, the prior art of record does not appear to anticipate or render obvious, in combination, the use of a nozzle to supply discontinuously polymer resin onto the outer surface of an optical fiber to form a protrusion for receiving fluid drag force to install the fiber with blown air.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John M. Bedtelyon whose telephone number is 571-270-1290. The examiner can normally be reached on Monday - Friday, 10:00am - 6:30pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on 571-272-2344. The fax phone

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number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/John Bedtelyon/
Patent Examiner, Art Unit 2874

/Kevin S. Wood/
Kevin S. Wood
Primary Examiner
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